Cisco Router 1812 Configuration

In this lab, you will learn how to setup Cisco 1812 router to provide network services to small computer networks. You will need 1 Cisco 1812 router, 4 or 5 PCs. Figure 1 shows a typical setup. Connect the Cisco router directly to the university network using a Ethernet cable via port FE0 (Figure 1, line 4), then connect all the PCs to Cisco router via port FE2 –FE9 using Ethernet cables(Figure 1, line 3).

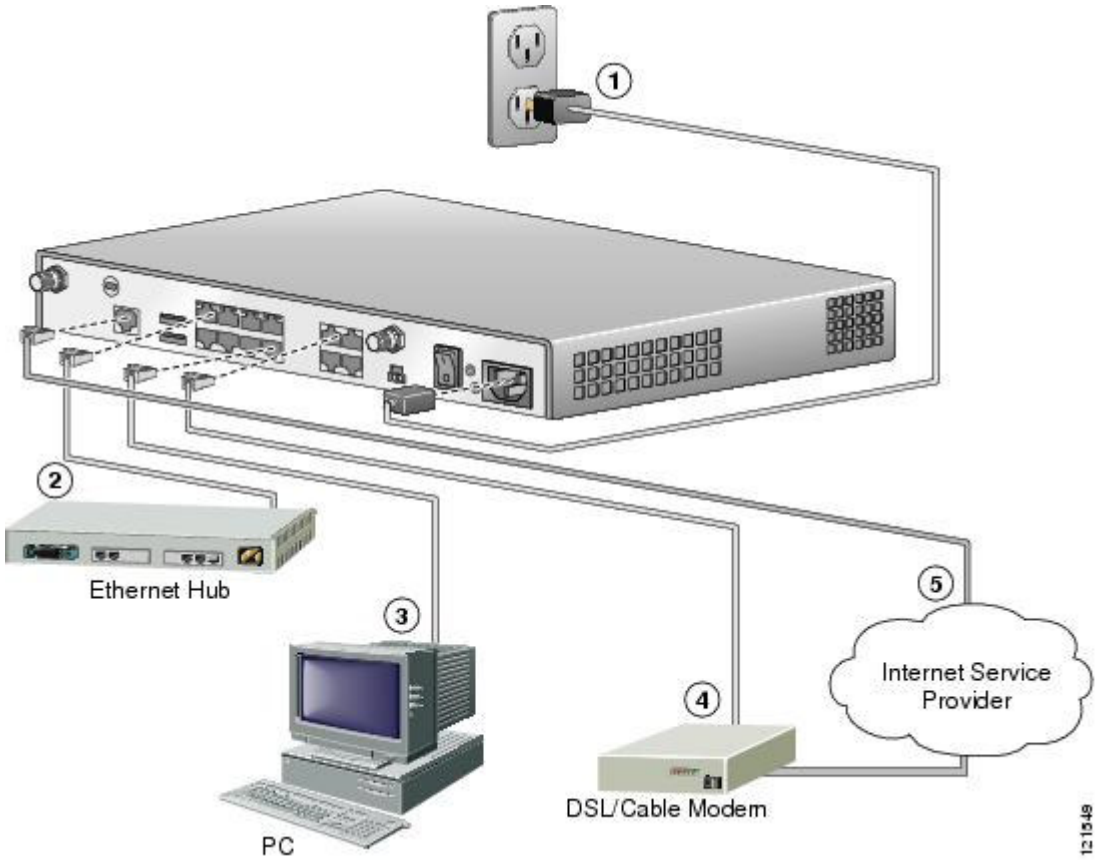

Figure 1 Typical Installation of a Cisco 1812 Router

Basic Configurations:

1. Switch on the Cisco router.
2. Boot all the PCs into Windows operating systems.
3. On a PC, from a MS-DOS console terminal type following commands, and comment the output.

   C:\ipconfig/all
   C:\route print

4. Open a web browser, and try to view a web site, does it work? Explain why.

5. By default, Cisco router runs on 10.10.10.1 IP address, and acts as a DHCP server, PCs will get IP addresses such as 10.10.10.2 10.10.10.3……..etc. You can connect to the Cisco router by telnet (username is cisco and password is cisco):

   C:\telnet 10.10.10.1

6. Once you successfully logged in, you will see:

   router#

7. All Cisco configuration information are stored in configuration script files, to view startup configuration script file and current running configuration file, type:

   router#show startup-config
   router#show running-config

8. To configure the Cisco router you need to change to configuration mode. Following commands change Cisco router to configuration mode through terminal, set the hostname, and exit the configuration mode.

   router#config terminal
   router(config)#hostname 1800-ISR
   ^Z
   1800-ISR#

9. To provide network services, first you need to connect Cisco router to the Internet, the following commands connect FastEthernet 0 (FE0) to the Internet, it will use DHCP to get its IP address.

   1800-ISR#config terminal
   1800-ISR(config)#interface FastEthernet 0
   1800-ISR(config-if)#ip address dhcp
   1800-ISR(config-if)#ip nat outside
   1800-ISR(config-if)#no shutdown
   1800-ISR(config-if)#exit

10. Second, you need to set up the NAT service for the local networks:

    1800-ISR(config)#interface vlan 1
    1800-ISR(config-if)# ip nat inside
    1800-ISR(config-if)#exit
    1800-ISR(config)#access-list 2 permit 10.10.10.0 0.0.0.255
    1800-ISR(config)#ip nat inside source list 2 interface FastEthernet 0 overload
    ^Z
    1800-ISR#

11. Type following command, and comment the outputs:

    router#show running-config

12. Now type the following commands, and comment the output.

    C:\ipconfig/all
    C:\route print

13. Open a web browser, and try to view a web site, does it work? Explain why.

Advanced Configurations (optional):

14. You can also configure Cisco router using Cisco Router and Security Device Manager (SDM) software, read reference 5, and find out how.
15. Search the Internet, find out how to configure Cisco 1812 router through web pages.
16. Cisco 1812w routers also come with Wi-Fi support. Search the Internet, find out how to configure Cisco 1812w router for wireless network.
17. Search the Internet, find out how to configure Cisco 1812 router to provide VPN connections.

Reference Web Sites:

1. http://www.cisco.com/en/US/products/ps5853/index.html
2. http://www.cisco.com/en/US/products/ps6183/index.html
3. http://www.cisco.com/en/US/docs/routers/access/1800/1811/hardware/quick/guide/1811qsg.html
4. http://www.cisco.com/en/US/prod/collateral/routers/ps5853/ps6184/product_data_sheet0900aecd8028a95f_ps5853_Products_Data_Sheet.html
5. https://www.cisco.com/en/US/docs/routers/access/cisco_router_and_security_device_manager/software/quick/guide/SDMq7.html
6.

Questions:

1. What is DHCP? Give an example on how to setup DHCP service in Cisco router.
2. What is NAT? Give an example on how to setup NAT service in Cisco router.
3. What is a Firewall? Give an example on how to setup Firewall service in Cisco router.
4. What is TFTP? Give an example on how to use TFTP to back, store and transfer Cisco configuration script files.
5. What Cisco SDM?
6. What is VPN?

